

Women's Drinking and Drinking Problems: Patterns from a 1981 National Survey

RICHARD W. WILSNACK, PHD, SHARON C. WILSNACK, PHD, and ALBERT D. KLASSEN, MA

Abstract: A 1981 national survey of women's drinking interviewed 917 women in the general population, stratified on the basis of screening interviews to include 500 moderate-to-heavy drinkers. The survey found no evidence of any major recent increase in women's drinking, and no evidence of unusually heavy drinking among working wives. Adverse drinking consequences and episodes of extreme drinking were most common among women aged 21-34; women who were unmarried, divorced or separated, or cohabiting; and women with frequent drinkers as spouses or companions. Alcohol-related behavior problems and symptoms of alcohol depen-

dence were closely related to levels of alcohol consumption. Among women averaging one ounce or more of ethanol per day, 45 per cent had driven while intoxicated in the past year, and 36 per cent reported memory lapses while drinking. Women at this consumption level were also more likely to report experiences with depression (61 per cent). Women with extremely high consumption levels were more likely to have histories of obstetrical and gynecological problems. Some women with alcohol-related problems reported periods of temporary abstinence, a pattern not studied heretofore. (*Am J Public Health* 1984; 74:1231-1238.)

Introduction

In the past 10 years, women's drinking has become an issue of major national concern.¹⁻⁵ The public has been warned that young women and working wives may be particularly vulnerable to alcohol abuse and problems;^{2,6} that large numbers of women may be abusing alcohol without the abuse being recognized or treated;⁴ and that alcohol abuse is having serious adverse effects on women's health^{7,8} and childbearing.^{9,10}

However, national surveys in the past decade have not discovered major increases in women's drinking or in adverse consequences of women's drinking.^{11-13,a} Concern about women's drinking has increased during a time when there has been little apparent change in the drinking behavior and the drinking consequences arousing concern.

Results of earlier studies could have been limited by sex-biased questions, small samples of heavier-drinking women, and perhaps the recency of any drinking changes that may have occurred. In this paper we present 1981 national survey data that are less subject to these limitations. We compare women's drinking levels in 1981 with patterns from past surveys. We then examine how women's drinking behavior varies among subgroups and relates to problems of health and behavior and symptoms of alcohol dependence.

Methods

Sampling

The National Opinion Research Center interviewed a stratified sample of 500 moderate-to-heavy drinking women, 378 light-drinking or abstaining women, 39 women who were self-reported former problem drinkers, and 396 men as a

comparison group. Screening interviews had identified women as moderate-to-heavy drinkers if they reported having four or more drinks per week. Previous national surveys^{11,14} indicated that this criterion would identify approximately the 20 per cent of women with the highest alcohol consumption. The sample did not include persons under age 21 or residing in institutions or military installations. Among individuals eligible for interviews, completion rates were 89 per cent for moderate-to-heavy drinking women and former problem drinkers, 83 per cent for light-drinking or abstaining women, and 66 per cent for men. Details of the sampling procedures, screening, completion rates, and comparisons with other national data are given in the Appendix.

Data Collection

The survey questionnaire, administered in privacy, asked detailed questions about alcohol consumption, drinking contexts, problems resulting from drinking, and symptoms of alcohol dependence. Other topics included role performances, stressful life experiences, symptoms of anxiety and depression, and physical health (including obstetrical and gynecological problems for women). All information reported here was recorded by interviewers on the questionnaire. All but four of the 120 interviewers were women, and none had a history of alcohol-related problems or moral objections to use of alcohol. Interviews took place between September and December 1981, so as to be completed before the onset of holiday drinking.

Measures

Most variables discussed in this paper are described in the results section, but the measurement of drinking levels and adverse drinking consequences requires more detailed explanation.

To estimate women's levels of alcohol consumption, we first used a procedure from previous surveys.^{6,11} Respondents indicated how often they had drunk wine, beer, and liquor in the 30 days preceding the survey, and how many drinks of each beverage they usually had on a day when they drank that beverage. Previous surveys assumed that a glass of wine contained four ounces of 15 per cent ethanol, a drink of beer contained 12 ounces of 4 per cent ethanol, and a drink of liquor or a mixed drink contained one ounce of 45 per cent ethanol. From drinking frequency, drinking quantity, and ethanol content for all three beverages, we calculated

^aJohnson P, Armor DJ, Polich S, Stambul H: US adult drinking practices: time trends, social correlates and sex roles. Working note prepared for the National Institute on Alcohol Abuse and Alcoholism. Santa Monica: Rand Corporation, 1977.

Address reprint requests to Richard W. Wilsnack, PhD, Associate Professor, Department of Sociology, University of North Dakota, Grand Forks, ND 58202. Dr. S. Wilsnack is Associate Professor, Department of Neuroscience, UND School of Medicine; Mr. Klassen is Senior Research Associate, UND, Department of Sociology. This paper, submitted to the *Journal* July 18, 1983, was revised and accepted for publication April 19, 1984.

an individual's average consumption of ounces of ethanol per day.

To allow comparisons with earlier surveys, women consuming an ounce of ethanol or more per day were categorized as heavier drinkers. Women consuming 0.22 to 0.99 ounces of ethanol per day were labeled moderate drinkers. Women who sometimes drank alcoholic beverages but who averaged less than 0.22 ounces of ethanol per day were labeled lighter drinkers. Women who said that they never drank alcoholic beverages, or who had not done so for at least a year, were categorized as abstainers.

Our second procedure for estimating ethanol consumption used distinctions between regular wine (12 per cent ethanol) and fortified wine (18 per cent ethanol); self-reports of how many ounces of beer and liquor a drink usually contained; and a revised estimate of the average ethanol content in liquor (41 per cent).^b The second procedure also took into account days when the respondent reportedly had six or more drinks (conservatively assumed to contain three ounces of ethanol), because occasions of such heavy episodic drinking might have relatively serious consequences for behavior and health.^{15,16} We used the second procedure when analyzing how women's total alcohol consumption was related to drinking problems, health, and symptoms of alcohol dependence over a 12-month period.

Measures of drinking consequences have not become standardized across surveys. The 1981 survey combined items from past surveys with new items of possible special relevance to women. Questions about adverse effects on behavior asked about driving while intoxicated, increased belligerence, damage to job performance, interference with housework, drinking-related accidents in the home, less discriminate sexual relationships, problems in relations with children, and spouse's or partner's complaints about drinking and threats to leave the drinker. Questions about symptoms of potential alcohol dependence included drinking-related memory lapses (blackouts), rapid drinking, morning drinking, inability to stop drinking before becoming intoxicated, and inability to reduce alcohol consumption over time. Indexes showed how many different types of problem consequences and alcohol dependence symptoms were reported for the preceding 12 months.

Data Analysis

Calculation of percentages and cross-tabulations involved weighting cases to compensate for response rate variations and for the stratified oversampling of moderate-to-heavy drinking women and former problem drinkers. Weighting enabled us to estimate the percentages and distributions of drinking levels and consequences in the general population. However, tests of statistical significance were calculated conservatively from the actual numbers of cases in the survey. A description of the weighting procedure is given in the Appendix. Data from the male comparison sample are not reported here.

To measure the association between two variables, we used Pearson's *r* for variables approximating interval scales, and to test for linear trends; but we used gamma for variables with relatively small numbers of ordinal categories.¹⁷ To test the statistical significance of group differences, comparisons of two groups used differences of proportions,¹⁸ while multiple group comparisons involved use of the Scheffé test, a

conservative procedure unaffected by unequal group *N*s.¹⁹ All significant differences reported here have probabilities of less than .05.

Results

Drinking Levels

Table 1 shows the drinking levels of women in four age groups from nine national surveys. The data are from five surveys by Louis Harris and Associates (November 1971, September 1972, March 1973, October 1973, January 1974), the combined results of two surveys by the Opinion Research Corporation (ORC) (December 1974–January 1975, and June 1975), a survey by the Response Analysis Corporation (RAC) (January–April 1976), and a survey by RAC for the University of California's Social Research Group (1979).

The 1981 data indicate that women drinkers remain predominantly lighter drinkers, and abstinence is increasingly common among women after age 50. Over the last 10 years, any changes in women's consumption of alcohol have been smaller, slower, and more irregular than publicity about women's drinking would suggest.

Nevertheless, some changes have occurred. In 1981, more of the middle-aged women (ages 35–64) were drinkers than in all but one previous survey, reflecting significant upward linear trends in the percentages of women who drink in both middle-aged subgroups. The percentage of women aged 35–49 who were heavier drinkers rose to 9 per cent in 1981, not part of a linear trend but significantly higher than the distribution of percentages in earlier surveys.

As in earlier surveys, in 1981 women of lower status in terms of education or household income drank less than higher-status women.^{6,20,21} Sixty-eight per cent of the women with no more than an 8th-grade education, and 50 per cent of the women in households with less than \$10,000 annual income, were abstainers, compared with 39 per cent of all women surveyed. At the other extreme, 9 per cent of women with college degrees, and 15 per cent of women with household incomes of \$50,000 or more, were heavier drinkers, compared with 6 per cent of all women surveyed. The association (gamma) of drinking levels with six levels of education was .28, and with 16 levels of income was .22.

Among religious categories, women who said they were fundamentalist Protestants were most likely to be abstainers (62 per cent), as in previous surveys,^{20,c} while heavier drinking was most common among women who said they had no religious preference (16 per cent), significantly higher percentages than for all other women. More Black women abstained than White women (45 per cent vs 38 per cent), as in previous surveys,^{11,20} (see also footnote a) but the reduced gap in 1981 was statistically nonsignificant, and the tendency for more Black drinkers to be heavier drinkers had all but disappeared (11 per cent vs 9 per cent).

Marital and employment statuses produced sharper differences in women's drinking patterns, as shown in Table 2. As in past surveys,^{6,11,20} women who were divorced or separated, or who had never been married, were relatively unlikely to abstain from alcohol and relatively likely to drink at the heavier level. In contrast, widows were predominantly

^cClark WC: Contextual and situational variables in drinking behavior. Draft report for the National Institute on Alcohol Abuse and Alcoholism. Berkeley: University of California, Social Research Group, 1977. Only 6 per cent of fundamentalists who did drink were heavier drinkers, confirming other research findings that to drink contrary to the norms of one's religious group may not necessarily increase the risks of excessive drinking.²²⁻²⁴

^bMarshall G: Personal communication, Distilled Spirits Council of the United States, 1982.

TABLE 1—Percentages* of Women at Different Drinking Levels, by Age Group, 1971–81

Age Group (years)	HARRIS 1971	HARRIS 1972	HARRIS 1973	HARRIS 1973	HARRIS 1974	ORC 1975	RAC 1976	SRG 1979	1981	Unwtd N, 1981**	Wtd N, 1981**
21–34										(356)	(847)
% drinkers	71	67	62	65	71	68	71	77	70		
Lighter drinkers	47	37	46	40	36	44	51	46	41		
Moderate drinkers	18	26	21	22	29	19	15	26	24		
Heavier drinkers	6	4	5	3	6	5	4	5	6		
35–49										(243)	(670)
% drinkers	64	56	63	55	65	57	73	65	72***		
Lighter drinkers	45	38	36	32	34	25	50	39	43		
Moderate drinkers	14	14	19	17	26	28	19	19	20		
Heavier drinkers	5	4	8	5	6	3	3	8	9		
50–64										(190)	(588)
% drinkers	47	44	43	50	49	48	50	49	52***		
Lighter drinkers	32	28	24	28	27	40	36	30	37		
Moderate drinkers	10	13	13	18	18	16	11	16	10		
Heavier drinkers	5	4	5	4	4	1	3	3	4		
65 and over										(111)	(388)
% drinkers	26	42	29	28	36	32	37	40	33		
Lighter drinkers	19	29	19	22	26	23	28	31	25		
Moderate drinkers	6	8	8	3	7	7	9	7	7		
Heavier drinkers	0	5	2	2	2	1	0	2	2		

*Per cents are based on weighting.

**Unweighted and weighted numbers of cases in the 1981 survey.

***Linear trend, $p < .05$, one-tailed.

Survey percentages for 1971–79 are derived from Johnson P, *et al.* (footnote a) and from Clark and Midanik.¹¹

TABLE 2—Percentages* of Women at Different Drinking Levels, by Marital and Employment Status

Drinking Levels	Total Sample	Married, Full-time Paid Employment	Married, Part-time Paid Employment	Married, Full-time Housewife	Widowed**	Cohabiting**	Divorced** or Separated	Never** Married	Unemployed, Seeking Work
Abstainers	39	41	34	43	62	0	28	28	22
Lighter drinkers	38	40	37	42	28	47	37	35	51
Moderate drinkers	17	14	24	9	8	33	28	28	22
Heavier drinkers	6	4	4	6	1	20	8	9	5
Unweighted N***	(901)	(189)	(97)	(177)	(74)	(37)	(109)	(106)	(48)
Weighted N***	(2497)	(565)	(282)	(619)	(244)	(55)	(249)	(228)	(98)

*Per cents are based on weighting and may not total 100% due to rounding.

**Excludes women who are unemployed and seeking work.

***The subcategories do not include 55 women (weighted $n = 140$) who were married and unemployed but not seeking work because of retirement, disability, or other reasons; and 9 women (weighted $n = 17$) who did not provide adequate information about their marital or employment status. Total sample Ns exclude 16 women (weighted $n = 55$) for whom quantity-frequency data were missing or inadequate.

abstainers, and relatively few widows were heavier drinkers, patterns that can be largely accounted for by age. Further analyses disclosed that women who had never married drank at significantly higher levels if they were 21 to 34 years old (22 per cent abstainers, 11 per cent heavier drinkers), or if they were working full time for pay (12 per cent abstainers, 13 per cent heavier drinkers).

Studying interactive effects of marital and work roles, Johnson⁶ (see also footnote a) reported a well-publicized finding^{4,25,26} that working wives have a relatively high risk of alcohol abuse. The data in Table 2, however, suggest that married women with paying jobs were not exceptionally likely to drink at the heavier level, although moderate drinking was more common if wives had part-time jobs (significantly more common than among full-time housewives). Table 2 also shows that women who had never married were more likely to be moderate or heavier drinkers than were the three groups of married women, a change from Johnson's⁶ findings. Further analyses found that among women never married who had full-time jobs, 49 per cent were moderate or heavier drinkers, significantly more than

in the three married categories. In Table 2, it is also remarkable that among women living with partners in marriage-like relationships (2.3 per cent of the population sampled), none were abstainers and 20 per cent were heavier drinkers. This drinking pattern differed significantly from drinking by women in the three married categories. The evidence is consistent with other survey findings of heavier drinking by women cohabiting following high school.⁴

The 1981 survey asked women to classify people in each of four close relationships (husband or living companion, closest brother or sister, closest male friend, and closest female friend) as a nondrinker, occasional drinker, frequent drinker, or problem drinker. The data in Table 3 suggest that women are likely to drink in the way that their husbands or partners drink. For three levels of spouse's drinking, the association (gamma) with women's drinking levels was .74.

⁴Bachman JG, O'Malley PM, Johnston LD: Changes in drug use after high school as a function of role status and social environment. Occasional Paper No. 11. Ann Arbor: University of Michigan, Institute for Social Research, 1981.

However, wives of husbands viewed as problem drinkers were significantly less likely to drink at the heavier level than wives of frequent drinkers.

Women also drank like their closest friends and siblings. When we totaled the number of significant others who did not drink, almost every woman close to four abstainers was an abstainer herself (94 per cent), while women with no close relationships to abstainers were unlikely to abstain (11 per cent) ($\gamma = .66$). Women's heavier drinking was related to the number of frequent drinkers they were close to ($\gamma = .58$), as shown in Table 3.

Adverse Consequences of Drinking

The most common drinking-related behavior problem was driving while intoxicated. Among all women drinkers, 17 per cent (27 per cent of moderate drinkers, 45 per cent of heavier drinkers) said they had driven while feeling drunk or high at least once in the preceding year. Many heavier drinkers also reported belligerence after drinking. In the preceding year, 34 per cent had started fights with their husbands or partners while drinking, and 11 per cent had started fights with people outside the family. The most common symptom of alcohol dependence was an inability to remember behavior while drinking, which happened in the preceding year to 10 per cent of all women drinkers, including 36 per cent of the heavier drinkers. In the same period, 11 per cent of the moderate drinkers and 21 per cent of the heavier drinkers reported drinking several drinks rapidly for a quick effect. Other behavior problems and dependence symptoms were rare. Even among heavier drinkers, almost none said that their drinking in the preceding year had harmed job opportunities or made their husbands threaten to leave them, and only 7 per cent reported any interference with household chores, or any inability to stop drinking before becoming intoxicated.

Nine per cent of the women reported drinking in the preceding year but not in the last month. These temporary

abstainers reported behavior problems and dependence symptoms from drinking more often than other lighter drinkers or longer-term abstainers, but less often than heavier drinkers. The patterns suggest that some women who have problems or symptoms related to their drinking may react by abstaining, at least temporarily. The phenomenon of temporary abstinence, not revealed by previous studies of women's drinking, deserves more attention in future research.

Patterns of Consumption and Consequences

Using the modified consumption measure, which included days of heavy episodic drinking in the preceding 12 months, Table 4 shows that ethanol consumption levels strongly affected women's chances of having behavior problems and dependence symptoms. Very few of the lightest drinkers reported any problems or symptoms, while among women who averaged over two ounces of ethanol per day, 66 per cent had at least one behavior problem and 71 per cent had at least one dependence symptom. In a more detailed analysis, seven levels of current ethanol consumption were strongly correlated with the number of problems ($r = .46$) and with the number of symptoms ($r = .42$). However, problems and symptoms surveyed were not limited to the heaviest drinkers, and some of the heaviest drinkers reported none.

Current drinking was unrelated to women's reports of ever having had a serious illness, injury, or disability. Health problems specifically connected with drinking were related to consumption levels but were rarely reported even by the heaviest drinkers. Among women averaging at least 1.5 ounces of ethanol per day, including days of six drinks or more, 9 per cent recalled health problems resulting from drinking (γ for 7 levels of consumption = .74), and 6 per cent reported that physicians had suggested that they might have drinking problems ($\gamma = .62$).

Among women ever pregnant, women having six or more drinks a day at least three days a week during the

TABLE 3—Percentages* of Women at Different Drinking Levels, by (A) Husband's or Partner's Perceived Drinking Pattern and (B) Number of Significant Others** Perceived as Frequent Drinkers

	A. Husband's or Partner's Drinking			
	Non-Drinker	Occasional Drinker	Frequent Drinker	Problem Drinker
Abstainer	79	24	8	29
Lighter drinker	16	56	37	49
Moderate drinker	4	16	34	18
Heavier drinker	1	4	22	4
Unweighted N	(143)	(323)	(144)	(32)
Weighted N	(591)	(887)	(284)	(89)

	B. Significant Others** Who Are Frequent Drinkers			
	0	1	2	3-4
Abstainer	48	20	10	10
Lighter drinker	38	42	29	27
Moderate drinker	12	29	36	27
Heavier drinker	2	9	24	37
Unweighted N	(575)	(195)	(73)	(58)
Weighted N	(1818)	(467)	(118)	(93)

*Percentages are based on weighting and may not total 100% due to rounding.

**Husband or partner, closest brother or sister, closest male friend, and closest female friend.

TABLE 4—Percentages of Women Drinking in the Preceding 30 Days Who Experienced Problem Consequences of Drinking and Symptoms of Alcohol Dependence in the Preceding 12 Months, by Average Ethanol Consumption per Day

Problems	Ethanol Consumption per Day			
	0.00-0.21 oz	0.22-0.99 oz	1.00-2.00 oz	More Than 2.00 oz
0	90	61	44	34
1	7	24	23	24
2	3	9	20	17
3 or more	0	5	13	25
Unweighted N	(209)	(248)	(94)	(48)
Weighted N	(681)	(365)	(118)	(68)

Symptoms	Ethanol Consumption per Day			
	0.00-0.21 oz	0.22-0.99 oz	1.00-2.00 oz	More Than 2.00 oz
0	94	78	58	29
1	5	13	25	50
2 or more	1	9	16	21
Unweighted N	(211)	(249)	(96)	(49)
Weighted N	(692)	(368)	(120)	(69)

*Percentages are based on weighting and may not total 100% due to rounding.

TABLE 5—Percentages of Women Drinking in the Preceding 12 Months Who Reported Drinking Problems, Symptoms of Alcohol Dependence, Heavy Drinking and Drunkenness in the Preceding 12 Months, by Age

	Age (years)			
	21-34	35-49	50-64	65+
Had 2 or more problem consequences	19	9	5	0
Had 1 or more symptoms of dependence	26	15	6	3
Consumed 1 oz or more of ethanol per day*	13	19	13	10
Had 6 or more drinks in a day, 4 or more times	29	18	14	6
Drank enough to feel drunk, 4 or more times	16	4	4	0
Unweighted N	(305)	(204)	(130)	(58)
Weighted N	(611)	(488)	(321)	(137)

*Includes only women who were drinkers in the preceding 30 days (unweighted n = 615, weighted n = 1,275).

preceding year were significantly more likely than all others to report premature deliveries (26 per cent vs 10 per cent) and miscarriages or stillbirths (43 per cent vs 28 per cent). Women having six or more drinks at least five days a week were significantly more likely to report birth defects in offspring (18 per cent vs 6 per cent of all others, among women ever pregnant) and failures to become pregnant after trying for at least a year (30 per cent vs 12 per cent of all other women).

Depressive symptoms were more clearly related to chronic than to episodic drinking. Of women who averaged at least one ounce of ethanol per day in the month before the survey (heavier drinkers), 61 per cent reported at least one lifetime experience of feeling sad, depressed, and unresponsive for two weeks or more (compared with 38 per cent of long-term abstainers; gamma for 5 30-day drinking levels = .23). Of these heavier drinkers, 19 per cent (vs 3 per cent of long-term abstainers) had had at least three depressive episodes with three or more symptoms such as fatigue, lassitude, sleep disturbances, and loss of appetite (gamma =

.39). Suicidal behavior was more clearly associated with extreme consumption patterns. A past suicide attempt was reported by 0.2 per cent of long-term abstainers, 5 per cent of women averaging one to two ounces of ethanol per day (including days of six drinks or more), 10 per cent of women averaging two or more ounces of ethanol per day, and 24 per cent of the women having six or more drinks in a day at least three days a week (gamma for 8 consumption levels = .51).

Subgroup Differences in Heavy Consumption and Consequences

The 1981 data in Table 5, confirming results of other surveys,^{6,11} show that young women drinkers were most likely to report drinking-related behavior problems, symptoms of alcohol dependence, and repeated occasions of getting drunk or having six or more drinks in a day. All the contrasts of young drinkers with other age groups were statistically significant.

Among women drinkers, neither education nor income had clear relationships to drinking-related behavior problems or dependence symptoms, contrary to expectations from past research.^{6,14,27} However, women drinkers with low household income (<\$10,000) were significantly more likely than all others to report four or more occasions when they were drunk (15 per cent) or when they had at least six drinks in a day (29 per cent) during the preceding year. Black women drinkers did not report more problems or symptoms than Whites, but were significantly more likely than Whites to report having six or more drinks in a day four or more times in the preceding year (34 per cent vs 18 per cent). Women drinkers with no religious preference, compared with those listing a religious preference, were significantly more likely to report two or more drinking-related behavior problems (22 per cent), at least one dependence symptom (31 per cent), and four or more occasions of getting drunk (18 per cent) or having six or more drinks in a day (33 per cent) in the preceding year.

Data in Table 6 show that women in four marital and employment subgroups (unmarried, divorced or separated, cohabiting, or unemployed and seeking work) were more likely than women in four other subgroups (widowed, or married working full-time as housewives or part-time or full-time for pay) to report drinking-related behavior problems, dependence symptoms, and occasions of extreme consump-

TABLE 6—Percentages of Women Drinking in the Preceding 12 Months Who Reported Drinking Problems, Symptoms of Alcohol Dependence, Heavy Drinking and Drunkenness in the Preceding 12 Months, by Marital and Employment Status

	All Drinkers	Married, Full-time Paid Employment	Married, Part-time Paid Employment	Married, Full-time Housewife	Widowed*	Cohabiting*	Divorced* or Separated	Never* Married	Unemployed, Seeking Work
Had 2 or more problem consequences	12	9	11	7	0	38	19	13	13
Had 1 or more symptoms of dependence	17	14	19	10	1	31	26	26	20
Consumed 1 oz or more of ethanol per day***	14	12	8	14	7	30	19	16	16
Had 6 or more drinks in a day, 4 or more times	20	19	11	16	17	37	26	31	28
Drank enough to feel drunk, 4 or more times	9	7	5	4	5	27	11	16	14
Unweighted N†	(698)	(143)	(72)	(130)	(43)	(36)	(91)	(90)	(45)
Weighted N†	(1557)	(342)	(193)	(379)	(93)	(55)	(179)	(161)	(77)

*Excludes women who are unemployed and seeking work.

**Includes only women who were drinkers in the preceding 30 days (unweighted n = 615, weighted n = 1,275).

***The subcategories do not include 37 women (weighted n = 70) who were married and unemployed but not seeking work because of retirement, disability, or other reasons; and 7 women (weighted n = 8) who did not provide adequate information about their marital or employment status.

tion and drunkenness. High-risk groups were the same as in past surveys^{6,11} (see also footnote d). Few paired comparisons were significantly different, but all comparisons between the two combined sets of four subgroups were significant.

Among the married women drinkers in Table 6, those who had part-time paying jobs were most likely to report drinking-related behavior problems and dependence symptoms, despite being relatively unlikely to drink to extremes. Although paired comparisons were not statistically significant, the possibility that wives working part-time might be specially vulnerable to alcohol problems or dependence calls for further study of their work experiences, the life-styles that lead to or accompany women's part-time jobs, and effects of temporary employment.

Women's drinking consequences were strongly related to how companions drank. As Table 7 shows, a woman drinker with a frequent-drinking husband or partner was more likely to report alcohol-related behavior problems, dependence symptoms, and episodes of extreme consumption and drunkenness, findings in accord with past research^{20,28} (see also footnote a). Associations (gamma) of the five outcomes in the table as binary variables with three levels of spouse's drinking (none, occasional, frequent) were

TABLE 7—Percentages of Women Drinking in the Preceding 12 Months Who Reported Drinking Problems, Symptoms of Alcohol Dependence, Heavy Drinking and Drunkenness in the Preceding 12 Months, by (A) Husband's or Partner's Perceived Drinking Pattern and (B) Number of Significant Others* Perceived as Frequent Drinkers

	A. Husband's or Partner's Drinking			
	Non-Drinker	Occasional Drinker	Frequent Drinker	Problem Drinker
Had 2 or more problem consequences	6	8	21	23
Had 1 or more symptoms of dependence	8	11	34	16
Drank 1 oz or more of ethanol per day**	7	8	30	7
Had 6 or more drinks a day, 4 or more times	11	14	31	18
Drank enough to feel drunk, 4 or more times	8	5	14	8
Unweighted N	(49)	(282)	(139)	(26)
Weighted N	(133)	(710)	(270)	(63)
	B. Significant Others* Who Are Frequent Drinkers			
	0	1	2	3-4
Had 2 or more problem consequences	7	17	25	22
Had 1 or more symptoms of dependence	10	28	22	41
Drank 1 oz or more of ethanol per day**	8	18	39	41
Had 6 or more drinks a day, 4 or more times	14	25	35	50
Drank enough to feel drunk, 4 or more times	5	12	17	24
Unweighted N	(399)	(173)	(71)	(55)
Weighted N	(985)	(378)	(114)	(84)

*Husband or partner, closest brother or sister, closest male friend, and closest female friend.

**Includes only women who were drinkers in the preceding 30 days. In Table 7A, unweighted n = 440, weighted n = 966; in Table 7B, unweighted n = 615, weighted n = 1,275.

above .4, except for repeated drunkenness (.30). However, the few women drinkers who said that their spouses were problem drinkers were less likely than the wives of frequent drinkers to report extreme drinking patterns or dependence symptoms, although most comparisons were statistically nonsignificant.

Women's drinking consequences were also closely related to how their best friends drank. Associations (gamma) of all four levels of drinking by male and female best friends with the Table 7 outcomes as binary variables were above .4 in nine of 10 measurements. Among 128 women drinkers who had frequent- or problem-drinking female best friends, 21 per cent said that they had been drunk four or more times in the preceding year, and 40 per cent reported having six or more drinks in a day at least four times.

Few women drinkers close to three or more nondrinkers reported any drinking-related behavior problems (3 per cent) or dependence symptoms (3 per cent). In contrast, Table 7 shows that in the preceding year 22 per cent of the women drinkers close to three or more frequent drinkers reported two or more problems, 41 per cent reported one or more symptoms, 24 per cent had been drunk four or more times, and 50 per cent had drunk six or more drinks in a day at least four times. Gammas for these outcomes as binary variables were all above .4.

To determine whether women's difficulties with drinking result from their social attributes rather than from how much they drink, we controlled for subgroup characteristics and found that consumption levels remained strongly related to adverse effects in nearly all groups. Consumption predicted behavior problems in all groups except the oldest women (who reported few problems), wives with part-time jobs, and women with several frequent-drinking companions. Consumption also predicted dependence symptoms among all groups except widows, and wives with part-time jobs. Drinking companions and part-time employment may pose special risks for women's drinking, but it appears that women's alcohol problems and alcohol dependence result primarily from how much women drink.

Discussion

Results of the 1981 survey call into question some widespread beliefs about women's drinking. First, there is no evidence of an epidemic or rapid increase of heavy drinking among women, although there may have been a modest increase in the percentages of middle-aged women who drink heavily. Second, wives with full-time paying jobs were not exceptionally likely to report heavy drinking or adverse drinking consequences. This finding is consistent with other recent research showing that some combinations of work and family roles are not necessarily distressful in ways that might make women find drinking useful or rewarding.^{29,30}

Women's obstetrical and gynecological problems were associated with high levels of alcohol consumption as expected, but we cannot yet distinguish to what extent the problems were consequences of and/or precipitants of heavy drinking.^{31,32} The heavier drinking and greater adverse consequences among women who were unmarried, unemployed, divorced, or cohabiting were also expected from previous research.^{6,11,20} Women in these relatively impermanent and unconstrained statuses may monitor and restrict their drinking behavior less carefully than women with more well-defined role obligations, and may be less likely to be

warned by others when their drinking and its consequences begin to be abnormal. However, it is also possible that women who are unconventional enough to drink with few inhibitions, or who have already developed drinking problems, may be unusually likely to find themselves in these impermanent or unattached statuses.

The strong associations that women's use and abuse of alcohol had with drinking by close companions (spouses, siblings, and friends) are consistent with general theories that drug abuse and other problem behavior result from differential association with supportive companions.^{33,34} Recent research also suggests that women's drug use is particularly dependent on initiation, assistance, and encouragement by other people.³⁵⁻³⁸ An important question is whether women's habitual drinking results more than men's from social inducement rather than self-initiation. It is also important to learn to what extent women select companions to support their drinking or abstinence. Furthermore, there is a need to understand when and why drinking does *not* encourage imitation, since wives of perceived problem drinkers did not drink as heavily as wives of perceived frequent drinkers.

Two patterns in the survey data were unforeseen. First, married women with part-time paying jobs appeared to be more vulnerable to adverse drinking consequences than one would have expected from their moderate drinking behavior. Second, women who were temporary abstainers were unusually likely to report adverse drinking consequences, suggesting that some women may react to drinking-related problems by abstaining temporarily. As yet, no one has investigated how and when women are likely to use temporary abstinence to avoid or reduce unwanted effects of their drinking.

Besides suggesting new foci for research, the results of the 1981 survey point to the need to reconcile the growing public concern about women's drinking with evidence that women's drinking has not suddenly or radically changed.^{12,13} People who are surprised to learn about women's drinking problems may assume that their surprise means the problems have suddenly grown much worse.³⁹ Data showing no major increase in women's drinking might lead such people to become less concerned about women's alcohol abuse. Statements about women's alcohol abuse should emphasize that because the problem has been long neglected, it must be widely publicized, perhaps especially if it has not changed dramatically. Sudden catastrophes gain attention easily, but public concern about chronic health problems like women's alcohol abuse requires strenuous educational efforts.

REFERENCES

- Kalant OJ (ed): Alcohol and Drug Problems in Women. Research Advances in Alcohol and Drug Problems, Vol. 5. New York: Plenum, 1980.
- Lake A: Alcoholism: suddenly it's a young woman's problem. *Redbook* June 1982; 159:77-86.
- National Institute on Alcohol Abuse and Alcoholism: Alcohol and Women. Research Monograph No. 1. Washington, DC: Govt Printing Office, 1980.
- Sandmaier M: The Invisible Alcoholics: Women and Alcohol Abuse in America. New York: McGraw-Hill, 1980.
- United States Senate, Committee on Labor and Public Welfare, Subcommittee on Alcoholism and Narcotics: Alcohol Abuse among Women: Special Problems and Unmet Needs. Hearings, September 29, 1976. Washington, DC: Govt Printing Office, 1976.
- Johnson PB: Sex differences, women's roles and alcohol use: preliminary national data. *J Soc Issues* 1982; 38:93-116.
- Hill SY: Biological and psychosocial consequences of alcohol for women: introduction: the biological consequences. *In: National Institute on Alcohol Abuse and Alcoholism: Alcohol and Women. Research Monograph No. 1. Washington, DC: Govt Printing Office, 1980.*
- Hill SY: Biological consequences of alcoholism and alcohol-related problems among women. *In: National Institute on Alcohol Abuse and Alcoholism: Alcohol and Health Monograph No. 4, Special Population Issues. Washington, DC: Govt Printing Office, 1982.*
- Clarren SK, Smith DW: The fetal alcohol syndrome. *N Engl J Med* 1978; 298:1063-1067.
- Streissguth AP, Landesman-Dwyer S, Martin JC, Smith DW: Teratogenic effects of alcohol in humans and animals. *Science* 1980; 209:353-361.
- Clark WB, Midanik L: Alcohol use and alcohol problems among US adults: results of the 1979 national survey. *In: National Institute on Alcohol Abuse and Alcoholism: Alcohol and Health Monograph No. 1, Alcohol Consumption and Related Problems. Washington, DC: Govt Printing Office, 1982.*
- Ferrence RG: Sex differences in the prevalence of problem drinking. *In: Kalant OJ (ed): Alcohol and Drug Problems in Women. Research Advances in Alcohol and Drug Problems, Vol. 5. New York: Plenum, 1980.*
- Fillmore KM: "When angels fall . . .": women's drinking as cultural preoccupation and as a reality. *In: Wilsnack SC, Beckman LJ (eds): Alcohol Problems in Women: Antecedents, Consequences, and Intervention. New York: Guilford, 1984.*
- Cahalan D: Problem Drinkers: A National Study. San Francisco: Jossey-Bass, 1970.
- Polich JM, Orvis BR: Alcohol Problems: Patterns and Prevalence in the US Air Force. Santa Monica: Rand Corp, 1979.
- Sobell LC, Cellucci T, Nirenberg TD, Sobell MB: Do quantity-frequency data underestimate drinking-related health risks? *Am J Public Health* 1982; 72:823-828.
- Liebetrau AM: Measures of Association. Quantitative Applications in the Social Sciences No. 32. Beverly Hills: Sage, 1983.
- Blalock HM: Social Statistics. Rev. 2nd Ed. New York: McGraw-Hill, 1979.
- Roscoe JT: Fundamental Research Statistics for the Behavioral Sciences. 2nd Ed. New York: Holt, Rinehart and Winston, 1975.
- Cahalan D, Cisin IH, Crossley HM: American Drinking Practices. New Brunswick: Rutgers Center of Alcohol Studies, 1969.
- Parker DA, Wolz MW, Parker ES, Harford TC: Sex roles and alcohol consumption: a research note. *J Health Soc Behav* 1980; 21:43-48.
- Larsen DE, Abu-Laban B: Norm qualities and deviant drinking behavior. *Soc Problems* 1968; 15:441-450.
- Makela K: Consumption levels and cultural drinking patterns as determinants of alcohol problems. *J Drug Issues* 1975; 5:344-357.
- Schlegel RP, Sanborn MD: Religious affiliation and adolescent drinking. *J Stud Alcohol* 1979; 40:693-703.
- Fortino D: Do working women drink too much? *Harper's Bazaar* April 1979; 112:70.
- Science News: Working wives: driven to drink? *Sci News* 1978; 114:197.
- Gomberg ES: Risk factors related to alcohol problems among women: proneness and vulnerability. *In: National Institute on Alcohol Abuse and Alcoholism: Alcohol and Women. Research Monograph No. 1. Washington, DC: Govt Printing Office, 1980.*
- Mulford HA: Women and men problem drinkers: sex differences in patients served by Iowa's community alcoholism centers. *J Stud Alcohol* 1977; 38:1624-1639.
- Verbrugge LM: Multiple roles and physical health of women and men. *J Health Soc Behav* 1983; 24:16-30.
- Thoits PA: Multiple identities and psychological well-being: a reformulation and test of the social isolation hypothesis. *Am Sociol Rev* 1983; 48:174-187.
- Kinsey BA: The Female Alcoholic: A Social Psychological Study. Springfield: Charles C. Thomas, 1966.
- Wilsnack SC: Alcohol, sexuality and reproductive dysfunction in women. *In: Abel EL (ed): Fetal Alcohol Syndrome, Vol. II: Human Studies. Boca Raton: CRC Press, 1982.*
- Sutherland EH, Cressey DR: Criminology. 3rd Ed. Philadelphia: Lippincott, 1970.
- Akers RL, Krohn MD, Lanza-Kaduce L, Radosevich M: Social learning and deviant behavior: a specific test of a general theory. *Am Sociol Rev* 1979; 44:635-655.
- Rosenbaum M: Sex roles among deviants: the woman addict. *Int J Addict* 1981; 16:859-877.
- Wister AV, Avison WR: "Friendly persuasion": a social network analysis of sex differences in marijuana use. *Int J Addict* 1982; 17:523-541.
- Robins LN, Smith EM: Longitudinal studies of alcohol and drug problems: sex differences. *In: Kalant OJ (ed): Alcohol and Drug Problems in Women. Research Advances in Alcohol and Drug Problems, Vol. 5. New York: Plenum, 1980.*

38. Binion VJ: Sex differences in socialization and family dynamics of female and male heroin users. *J Soc Issues* 1982; 38:43-57.
39. Lofland J: Collective behavior: the elementary forms. In: Rosenberg M, Turner R (eds): *Social Psychology: Sociological Perspectives*. New York: Basic Books, 1981.
40. US Department of Commerce, Bureau of the Census: *Statistical Abstract of the United States (101st Edition)*. Washington, DC: Govt Printing Office, 1980.
41. Davis JA: *General Social Surveys, 1972-1980: Cumulative Codebook*. Chicago: National Opinion Research Center, 1980.

ACKNOWLEDGMENTS

Portions of this paper were presented at the Annual Meeting of the Society for the Study of Social Problems, San Francisco, September 1982.

The research reported here was supported by Research Grant No. AA04610 from the National Institute on Alcohol Abuse and Alcoholism. We are grateful to project consultants Harriet B. Braiker, Kaye M. Fillmore, William C. McCready, and Lee N. Robins, and to staff of the National Opinion Research Center for their help in designing and conducting the survey. We also appreciate the information and advice provided by Walter B. Clark, Roberta G. Ferrence, Helen L. Metzner, and J. Michael Polich, and the technical assistance of Randall Cheloha and Ruth A. Moore.

APPENDIX Sampling and Weighting

Sampling for the 1981 survey was designed to produce a final sample of 500 adult women who were moderate-to-heavy drinkers (reporting four or more drinks per week) or former problem drinkers; 500 adult women who were lighter drinkers or abstainers; and 500 men as a comparison group. Women who report drinking four or more drinks per week represent approximately the 20 per cent of women with the heaviest alcohol consumption.^{11,14} The multi-stage national sampling frame used by the National Opinion Research Center (NORC) to obtain these subsamples involved selection of 101 primary sampling units (PSUs). Each PSU was divided into 18 segments, from which three were selected. Approximately 13 households were then selected from each segment for screening. Median family income, percentage Black, and SMSA (Standard Metropolitan Statistical Area) status were used to stratify PSU and/or segment selection to reduce sampling error. Household selection probabilities for each segment were calculated to equalize the probabilities of household selection for the entire sampling frame.

By these procedures, 4,032 households were selected for screening. Every adult woman located in the sampled households was asked to complete a 10-minute screening interview. Survey interviews were then requested with every woman identified in the screening interview as a moderate-to-heavy drinker or a former problem drinker. Interviews were requested with light-drinking or abstaining women in a systematic subsample of one out of four households. Men did not have screening interviews, but were asked for survey interviews in a systematic subsample of one in 4,545 households.

Screening was completed with 2,783 women (94 per cent) of the 2,951 residing in selected households. Of the 605 women identified as moderate-to-heavy drinkers or former problem drinkers, 539 (89 per cent) completed the survey interview. Of the 458 light-drinking or abstaining women identified in designated households, 379 (83 per cent) completed the survey interview. Of the 596 men in designated households, 395 (66 per cent) completed the survey interview; the major reason for the men's lower completion rate was unavailability.

To compensate for unequal probabilities of selection, each case was weighted by the product of five weighting variables. The weighting variables compensated for variations in: 1) probabilities of household selection; 2) nonresponse rates for screeners (by segment); 3) nonresponse rates for the survey questionnaire (by segment); 4) missing dwelling units at sampled household addresses; and 5) stratification by sex and drinking level. Stratification required a weighting of 4.0 for responses of light-drinking or abstaining women, and 4.5455 for men.

To determine how well the characteristics of the weighted sample corresponded to what is known about the national population, we used two sources of comparative data: the *Statistical Abstract of the United States, 1980*,⁴⁰ and the *General Social Survey, 1980*⁴¹ from the National Opinion Research Center, for characteristics that could not be readily compared with data from the *Statistical Abstract*. Comparisons relevant to this paper include the labor force status for the total sample, occupational distributions for employed women, women's education levels by ethnic category, and women's marital status by age group.

Labor force comparisons were based on the *General Social Survey* to maintain comparability of coding categories. While percentages in four of six labor force categories were similar (men and women combined, ≤ 2 per cent difference), the distributions differed significantly because a larger percentage of respondents in 1981 were employed full time than in the *General Social Survey* (52 per cent vs 47 per cent), and a smaller percentage in 1981 were homemakers (17 per cent vs 24 per cent). These differences may have been related to economic changes in 1981 and inclusion of 18-to-20-year-olds in the *General Social Survey*.

In women's occupational categories (white collar, blue collar, service workers, and farm workers), the percentages in the 1981 survey did not differ significantly from those in the 1980 *Statistical Abstract*, with the exception that the 1981 survey contained fewer farm workers (0.1 per cent vs 1.2 per cent). In the 1981 survey, the percentage of women who were Black matched the 1980 figures (10 per cent) and the distributions of education levels among Black women did not differ significantly. However, the distributions of education levels among White women differed significantly because the 1981 survey contained a comparatively large percentage of women with at least some college education (39 per cent vs 28 per cent for women age 25 and older) and comparatively few women with no high school education (11 per cent vs 17 per cent).

Age distributions of women in the 1981 survey and in the 1980 *Statistical Abstract* differed significantly because the 1981 survey included more women aged 30-44 (33 per cent vs 28 per cent) and fewer women over age 75 (4 per cent vs 7 per cent); percentages in all other age groups showed nonsignificant differences of less than 2 per cent. For six of eight age groups in the 1980 *Statistical Abstract*, 1981 survey distributions of women's marital status (never married, married, divorced, widowed) did not differ significantly from distributions in the *Abstract*. The only exceptions were that among women aged 55-64, 1981 survey respondents were relatively more likely to be divorced (13 per cent vs 6 per cent) and relatively less likely to have never married (0.3 per cent vs 5 per cent), while among women over age 75 ($n = 38$, unweighted), the survey included relatively few widows (43 per cent vs 70 per cent) and relatively large percentages of women who were married (39 per cent vs 22 per cent) or who had never married (18 per cent vs 6 per cent).

It may be worthwhile to keep in mind some of the ways in which our sample estimates vary from some of the parameter estimates of other sources (e.g., education levels of White women). However, we have not attempted to adjust the weighting based on these comparisons, because it is unlikely that these limited variations of demographic characteristics would make any of the findings here artifactual.